The Open Court

A MONTHLY MAGAZINE

Devoted to the Science of Religion, the Religion of Science, and the Extension of the Religious Parliament Idea

Founded by Edward C. Hegeler

VOL. XXXVIII (No. 11) NOVEMBER, 1924 (No. 822)

CONTENTS

PAGE

Frontispiece. The Taking of the Bastille.

Interpretations Interpreted. J. Graham Edwards.................... 641

An Undamaged Soul: Thomas Paine (Concluded). J. V. Nash........... 657

Individual Development. Henri Vanderbyll.......................... 675

Art and Scientific Education. Hardin T. McClelland................. 689

Arabic Parallels to Rabbinic Literature. Julius J. Price.......... 696

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INTERPRETATIONS INTERPRETED

BY J. GRAHAM EDWARDS

THE relation of man to the world about him, coupled with his desire to live here and therefore hereafter, gives rise to many conflicts as man, generation after generation, continuously finds himself surrounded by the increasing need for more difficult adjustments. Such adjustments, no matter to what they may be referred, are usually felt in terms of one's present survival or become the excuse for one's present survival.

A conflict of large interest is that seen between the Fundamentalists and Modernists, or between Science and Theology, or Evolutionists and Non-evolutionists, or Vitalists and Mechanists. The probable reason for such a state of affairs is not far to seek, but such seeking would not help appreciably the solution of the conflict. The participants in any one or all of the phases of the conflict are after all rather grotesque. They do not argue for the sake of clarity or truth but they argue to show that their opinions, no matter how arrived at, are correct because they happen to be their opinions, not because they are even approximately true or correct. Owing to the desire of one group of participants to iron out the irregularities and seeming eccentricities of another group, competitive struggling and juggling is maintained.

Much has been said concerning the contradictions arising as a matter of course between the facts of science and the dogma of theology. Since that phase of discussion seems at present to an extent at least unresolvable, it may not be invaluable to show what some scientists (many biologists) who have become aroused by a multiplicity of accusations hurled at biology and biologists by those not, or primarily not scientific in concept, have said in fact, justification or compromise.

When evolution made possible a different interpretation of previous notions, opinions and beliefs, and the dynamics of science in general developed more rapidly than was permitted by the statics of religion and theology, much alarm was felt in certain quarters lest too much juggling was going on regarding the meaning and explanation of the diverse forms of life whereby man tended to lose dignity and God power. Due consideration seems not to have been given to the possibility that God was privileged to have acted in whatever way He saw fit in so vital a matter as organic evolution. No matter how the fashioning and maintenance of life was accomplished, it was and is a unique process meriting great admiration even though the admiration must come from so limited a source as the human mental eye. Those whose minds were not elastic enough to get this new focus on creation, thought the phenomena included in evolution to have been the result of the work of the arch-fiend himself, or of some entity with similar attributes. Finally, the way of the transgressor being proverbially somewhat hard and senescence not very combative, some believers in the theory of evolution, who also, it appears, wanted to continue evolutionists and at the same time walk in trodden paths, began to interpret the theory as follows:

Evolution, far from being the nightmare of the materially-minded, is in reality the result of a stupendous and magnificent series of processes by means of which man has attained a complexity of structure and function which means improvement and progress. The concept of improvement and progress being designed, of course, to meet the more obvious phases of such complexity. Here was a toothsome morsel which would satisfy those conservatives who could see God from only one angle. And perhaps some were satisfied. But evidently those who were led to believe that the complexity of structure and function present in man, meant improvement and progress did not realize that such belief was held arbitrarily, or that man, for all the complexity resulting from his specialization in structure and function is no more adequate to cope with his environment or attain a millennium than animals less specialized or complex. It is obvious that man as any other animal, has an environment commensurate with a relative capacity to survive it. The human eye, for example, is no more adequate for the function it is required to perform, no matter how complex such function may be, than the pigment-spot of a one-celled animal is to the function it performs, no matter how limited it may be. Both man and the one-celled animals have, as regards a light-sensitive area, suitable means for responding to the demands of their respective environments. One is as much handicapped by his complexity as the other is by its simplicity. The microscope attests the truth of this and not its falsity.

To seek to interpret complexity of structure or function in terms of improvement or progress adds nothing to the practical solution of human problems. Such interpretations may actually serve to obscure the problem and prevent such a solution as might otherwise be practicable. It is worthy of note that the sense of superiority which many seem to derive from a contemplation of phenomena in general over which they have a certain control, is owing to human exploitation of that nature external to human nature. But the complexity which makes possible and ostensibly justifies such exploitation is not without its sinister aspect. The comparison of man with other animals involves different and more complex reactions or behavior on the part of man, but is by no mean clear, save by definition, that such reactions mean better adjustments and essential superiority. Nature's methods in securing for man so-called improvement and progress through processes of evolution are to be regarded with suspicion since the ends attributed to such methods do not in any real sense justify the means.

The implied assumption that cosmic design has all along been concerned with man as the ultimate pattern, while very flattering, is far from being substantiated. If it were substantiated, all of the available evidence revealing the varied aspects of maneuver displayed by this mysterious designer, nature-actor, creator, or inner perfecting principle, shows clearly how tedious and bungling the maneuver has been and is no matter if in cosmic or lesser processes man has finally emerged, or whether he arose by one mythical act of creation. Man's history since there has been a record, is more discreditable as dealing with an object issuing from omnipotent hands than if man had to plow with the assistance of unlabellable forces, through tons of colloidal ooze, requiring inconceivably long time. The object created cannot be more complex in character than the agency or agencies creating it, hence man and nature alike must reflect in their maintenance and operation something of the character of their originator. Therefore construction and destruction, integration and disintegration, life and death, "good and evil" and all the category of attributes relating to animate nature—to go no further—must inevitably be referred to an entity or entities, to a process or processes. It is in the confused and confusing attempt to relate certain phases of man's behavior as well as of nature's in general to one entity, agency or cause while the remainder are, in attempt, related to yet another entity, agency or cause, that constitutes the most pitiable spectacle for the eye that would like to perceive that truth makes one free, or that knowledge is edifying, or that the so-called powerful cerebrations of that most haloed structure, the human brain really reflect credit rather than discredit on whatever entity, agency or cause that may cosmologically be responsible for its present status.

Another evolutionist is of the opinion that evolution has been accomplished in the past by means of the continuous action of cooperation or mutual service. It is, he holds, the discovery of this one fundamental underlying method, common to all creative processes of nature that constitutes the epoch-making truth which gives man creative power. He believes, moreover, that in nature-action, i. e., the way natural law and phenomena are manifest, is revealed the expression of a creative will and that it is in this nature-action that man may find the instruments of his salvation. He admits, however, that the processes revealing the creative will are almost equally destructive and constructive, organizing and disorganizing, integrating and disintegrating. But despite this sinister duality, he maintains that nature-action is such that a constructive surplus is achieved which justifies the duality and constitutes its secret. From this kind of reasoning he is enabled to deduce that evolution is a triumph of constructive over destructive processes and accordingly becomes the immutable pivotal truth around which man must orient his inward purposes and to this truth conform his conduct rightly or suffer self-destructive penalties. Likewise nature's way is the truth man must seek to discover and her methods be accepted as his moral code.

Such an interpretation of evolution, of course, promises well for persons who take more kindly to god than to animal ancestry. But to say that progressive creation is only realizable through better mutual service or cooperation or that the latter constitutes the great principle in evolution, gives man no slightest notion of how to apply the principle, as it may have functioned in evolution, to the solution of any human problem. Of what service to billions of warring chips is the knowledge that the cosmic tide in transporting them, does so by means of methods or principles of cooperation or mutual service entailing progressive creation, when the very complexity responsible for progressive creation, however much brought about by cooperation or mutual service, conditions the horrible friction to which the chips are subject in their transportation? If cooperation or better mutual service should by any chance prove to be the great principle in the evolution of life—something knit of necessity into life's very fabric—should not the trend of exposition be then directed toward the *kind* of cooperation that should operate insofar as such a principle might be applicable in human cooperation and man might have consciously the power of constructive rather than destructive cooperation or mutual service?

When the attempt is made to reconcile one's hopes and ideals with the facts of reality, much confusion is to be expected. Such confusion is indicated by the statement that evolution is now the immutable pivotal truth around which man must orient his inward purposes and to it conform his conduct rightly or suffer self-destructive penalties; and again that evolution is something which compels man to accept nature's constructive methods as his moral code, when nature's methods are almost equally destructive and constructive. That nature should afford obvious truth or principles and compel man to conform to them, yet with the compulsion man does not conform, he accordingly must suffer self-destructive penalties, affords a questionable situation in the conduct of nature herself. More obvious and postulable than any method, code or principle of nature whereby man may obtain guidance in making necessary adjustments, is that nature cannot be personified to include such attributes or power as are ascribed to her. Neither nature nor evolution is a *deus ex machina* but rather words indicative of phenomena, a microscopic part of which phenomena man has become aware of in various ways in the course of time.

Because evolution is a word used to indicate what seems clearly to have happened in the differentiation of the diverse forms of life, and because there is that disparity in animal forms or phyla which appears to have justified man in assuming that he is the apex—the desired and desirable end of evolutionary processes—is the conclusion permitted that nature in producing man by means of such processes is more constructive than destructive, or that he is actually more advantaged by his sinisterly attained complexity? A complex machine is likely to require more attention in its functioning than a simple one. So it is with man who usually finds himself more handicapped by his complexity than other animals are by their relative simplicity.

One finds it but little clarifying to have discovered for him the great fundamental truth of cooperation or mutual service when even the discoverer also admits that there is an ever-present disorganization pervading the system or systems of nature—"a universal incompleteness of administration and a mocking instability of purpose, where chance creates and chance destroys or nips in the bud the tender shoots of new-sprung enterprise." And that "life stands on a meager franchise of the elements—a frail terrestrial film in an infinite sea of death"; that "organic evolution consists in utilizing the scraps in reducing the percentage of error by the actual process of living and dying—making one in a million fit to survive." That life should stand on so meager a franchise and constitute so frail a film and that evolution should involve the use of scraps in order that one in a million may be approximately fit to survive, is staggering to the intellect that seeks intelligence in nature or in her methods. Nature is the scrap-pile she is accredited with using. The intelligence of nature is expressed in scraps. The palpable horror is that one cannot be sure he really sees the pattern for the scraps. It is indeed the very scrappiness of nature that explains the origin and maintenance of so much mental dust.

If one turns for a moment to the point of view of another man of science, a point of view concerning nature rather different from the preceding, one find that this scientist sees man preying upon man (not to mention other animals in general), one a cunning parasite upon the other finally evoking reactions and consequences that overtake in catastrophe and cataclysm preyer and preyed upon alike. If this be true, what basis is there for the hope that either through science or any other agency one may obtain an antidote which will prevent "service from sinking to servitude and acquisition to rapacity destroying both the master and the slave, the robber and his prey"; or "cooperation from swerving into competition and friendship into enmity" entailing "fruitless cycles of unending struggle between pursuer and pursued, seeker and hider, aggressor and defender that have no outlet but mutual destruction or a deadlock of perpetual reprisal."

The relation of man to nature and nature to man, insofar as one relation may differ from the other, constitutes a problem not easily soluble at present—at least not soluble in sociological terms. In charmingly erudite statements one finds man discussed as a being with extracosmic relations—a being now independent of nature, now dependent on nature for guiding principles. Obviously man cannot be regarded at one time as a product of nature and at another as a being remote from natural processes—a sort of casual spectator of that nature which he himself is. Care should be exercised in discussing the man-phase of nature so as to correspond in fact with discussions of any other nature-phase.

The illumination of darkness is manifest in the attempt to explain the relation of man to nature by saying that "while man from time immemorial, has carried his appeals for help, for right and justice, straight to the supreme court of nature, it was but yesterday that he succeeded in drawing from her in the doctrine of evolution, a clear declaration of general principles and a broad outline of nature's methods." Or is it not also pertinent to ask why nature refused something so fundamental when man has so assiduously courted her since time immemorial and is her latest and relatively most perfect creation? Then, too, as it is held, if growth, this spectacular manifestation in animate nature, is perpetually thwarted or checked by its own successes and again liberated when better ways for supplying its demands are found, producing an orderly progression from simple to complex, from disorganization to organization which evolution is taken to indicate, what evidence is obtained which will disclose how man is to select more readily better ways of progressing? Again, if as it is also maintained, "cosmic environment, from the earlier phases of organic evolution, has been broadly permissive for all kinds of life, provided life could find the right way to use it"—are not man and life essentially synonymous and both confronted with the same difficulties? Environment need not be permissive for any kind of life unless life contains within itself the means of its own realization. If it should appear that either man or life, so to speak, is trying to find a right way to live, the congenital equipment of cosmos contains as reciprocals not only the process of living and dying, but of every other process which mutually conduces to this end. It is, therefore, impossible to speak of an attempt of life to find either a right or a wrong way to live, for ample evidence is available which indicates equal effort in either direction. This is true of the individual, species or race.

The dictum which has been variously formulated and perhaps with a good motive, although it undoubtedly serves to confuse the uncritical, is that nature's way is the truth man seeks to discover, or that one overcomes nature by obeying her. This is deceptive, for nature's way is man's way and one cannot overcome nature without being himself overcome. It seems unlikely that man as nature's best experiment should or could have become so separated from her that he has to undergo such violent pursuit in order to discover her way. Except for the difference in magnitude, one wonders if man in such ostensible seeking after nature's ways is or can be very different from beavers when they build their dam, or of squirrels when they store up food, or bears when they hibernate. Man does not seek nor does he have to seek in the way the dictum connotes, to discover nature's ways. The apparently more conscious desire in man to attain a better relation with his environment, leads him to say that he is seeking to discover that which other animals do more effectively and silently. Man is, it appears, merely *aware* of *some* of the processes of nature whereby his destiny is controlled. Awareness or so-called conscious manipulation of environmental factors does not mean control. The slave is not the master because he obeys the master's dictates. The apple does not overcome gravity by falling.

One critic of the biological picture which shows nature as selfish and wantonly destructive says that the picture is morbid and absurdly tragic and that it fortifies a false social philosophy which sees in social parasitism, in self-aggrandizement, in measureless acquisition of arbitrary power, the goal of a successful life. A philosophy which seeks to justify itself by an appeal to the struggle for existence, the elimination of the unfit and the survival of the fittest. This morbid and absurdly tragic picture and false social philosophy, this critic holds, miss the obvious fact that what actually happens in the struggle of life, is that life always wins and holds on to some increment of good. Be that as it may, the equally obvious fact is that "winning" and "good" are not easy to define biologically and one point of view is just as likely to be correct as another. At any rate life makes the canvas for whatever interpretations or points of view the human mind contributes. Man can only paint on this nature-life canvas with the oil and brushes which nature or life itself has furnished. The possibilities for all conceivable interpretations were innate in nature and life long before biology as a science and at a time when nature was "discovering" man along with her other discoveries and experiments.

The use of biological terms and data for false social philosophy should occasion no concern for one may be sure that other and equivalent terms would not be lacking despite the contributions of any science. Therefore it is hardly true to say in the case of Germany, for instance, that she was the first to incorporate into her politics, business, religion and philosophy the most pernicious teachings of the struggle for existence and the survival of the fittest. For one knows now or should know that nature in producing pernicious teachers will also equip them with pernicious teachings all science to the contrary notwithstanding.

Biologists as well as those who speak only in the name of biology might well give more attention to a consideration of the fact that whatever is, is *natural*, no matter how convenient the arbitrary language indicating the varied aspects of nature may be. The so-called orderliness or lawfulness of nature which man thinks or fancies he has discovered—nay, even produced—is merely his experience of the phenomenal world. From the available evidence the conclusion may be easily drawn that, no matter how much change in material configuration of the animate or inanimate world, there was never less order at any time of the earth's history, or in cosmos, than now—less chance, chaos or accident; more design, purpose or teleology. Everything seems orderly if it can be observed sufficiently often in closely similar ways. The more acceptable way at present for man to discover that which he subsequently calls order in the world about him, is that offered by science. If no uncaused phenomenon (so-called noumena are really unanalyzed phenomena) is found and if certain sequences are repeated in approximately identical ways under approximately identical conditions, law and order are thus made possible of definition—but of definition only.

Another singular notion is that selfishness is self-destructive. The exponent of this notion believes that "Germany's dissolution will make the world better for the practical lesson it has received showing that selfishness for nations as for individuals is self-destructive." Selfishness, however, in the case of Germany or of any other nation has not led to self-destruction. Selfishness is primarily functional in self-preservation. It would be helpful, if true, for the public to know after thousands of years of increasingly destructive wars, that selfishness is self-destructive. But selfishness being self-preservative and *Nature* a conflict of imperfections, it is probable that attention could be more successfully directed here when interpreting Germany's conduct as well as the conduct of other nations.

Science also as well as selfishness and especially biology since "the dark and disfiguring shadow of Darwinism fell upon the fields of life" have been held responsible in various insidious ways for the growth and also the decay of nations. Germany's growth in power has been attributed to the development of her science as well as a cause of her destruction. But are the biological sciences or science in general *more destructive than the truth which makes one free.* Real science is truth or fact and truth does sometimes make one relatively free. While scientific instruments and methods are used in modern warfare and national motives labelled in various ways, has the use of such instruments or methods revealed methods. codes or sets of principles different from or subversive of those employed by nature in general? Verily history after nature repeats itself.

Unfortunately it is not clear what value in human terms is to be assigned to the creative aspect of nature, or what to progress. Processes of growth and creation as the biologist sees them have little sociological meaning although the desire is strong to read into them more than they can support or nature justify. The mere ability or capacity to differentiate into more complex forms or aspects of life entailing the accumulation of more complex social and industrial slavery (called organization) may be taken arbitrarily to mean progress. But what does the "progress" signify or justify? What rainbow promises are guaranteed in the physics of the spray of complexity, of growth, of creation? How may it be established with certainty that man through science, pure or applied, is "harnessing" nature as one aspect of so-called progress, rather than that nature through science is "harnessing" man just as the development of industrial organization is binding instead of freeing him? If the end or purpose of nature's travail is to yield a constructive surplus, why are "good" and "evil" such dynamic factors in that travail by means of which "improvement and progress" or "cooperation" realize themselves? Truly the human mind is finite.

Among the scientific protagonists of the theory of evolution who would coat it with some mentally narcotising substance, one is found who maintains that evolution offers a rational solution of the problem of evil. Without pausing to consider of what evil is actually composed, if it has any composition at all in a biological sense, one is made curious to inquire if this solution is merely offered tentatively, whether it will take one or more billion years for humanity to become aware of the offer and what the chances are for its acceptance. Because nature, through processes visible to man in terms of evolution, has enabled him to ascertain his relation to some of the processes that produced him, it may not be concluded that cosmos has been entrusted to his care, or that there will be no cosmology or cosmic functioning whether man is aware or not aware, conscious or not conscious of evolution or cosmic functioning. Those among men who would control or shape man's destiny, might well find out from science or other reliable sources, something about how their destiny is controlled or shaped.

To say that evolution offers a rational solution of the problem of evil neither states the problem nor discloses how a rational solution may differ from an ordinary one. Since life is a "balance between constructive and destructive" forces or processes and the death process a normal part of the life process, the desire for "solutions, improvement and progress, better mutual service" is like a cry expressing pain—merely incidental to the life-death process. Why seek to justify or condone nature by saying that progress and creation are only to be realized through endless struggle involving continuous adjustment, as does the holder of the view that evolution offers a rational solution of the problem of evil, when the temporary solace it may give subserves no valuable end and may indeed excite the query concerning the meaning for the individual and race of life itself? Any answer to such a query cannot be other than speculative. In such speculation is the possibility that attention may become uncomfortably directed to the inadequacy of nature (man thus made conscious of his confusion at nature's hands) to handle her own problems (the creation and maintenance of man being one) in the ideal way some seem to think and hope man will be enabled to do by knowing nature better.

As an indication of how even among those with scientific training, to say nothing of the laity, a simple statement of fact may be deceptively subordinated to more or less rhetorical display, the following definitions of the aim of science are submitted: "Science aims to ascertain, as nearly as may be, what that sequence of creative rightness was in order that she may infer what it shall be." "The aim of real science—is to know the truth—and the truth alone can make us free." Both definitions suffer in directness and clarity because of the fact that the aim of any real science is the investigation of phenomena, no matter what motives actuate the investigator or what results may be obtained from the investigation.

In the second definition of the aim of science given above and in more historic references, one finds the idea that truth makes one free. However factual this may be under certain conditions, it must also be borne in mind that with each increment of knowledge. the individual or society so enlightened, becomes the more burdened —burdened by the larger revelation of the processes of nature of which he or it is a part, and hemmed in by a larger sense of responsibility, or of duty, and of the necessity for an exemplary life.

The untutored man feels himself freer than the tutored in that he is unmindful of the determinants of his conduct and character. But this does not alter the actual condition of bondage in either case. The man of today is bound, as in the past, by the society he creates, by the industry he is impelled to develop, and by the science revealed through him. It is intellectually dishonest to excite hope for greater harmony of man with his environment by constructing a concept of freedom which ostensibly removes him from the physical slavery from which the concept gets its impetus. The law that binds the community may set the individual free and the law that binds the individual may set the community free, but it is freedom through bondage and bondage through freedom. The sequences are only rearranged so that relatively different effects are obtained.

Truth, of course, frequently makes one free of the fears induced by what hitherto was not understood or could not then be controlled, but a vicious cycle is engendered by new fears arising in place of the old so that society is as much frightened by what is revealed in the light as by what formerly was hidden in darkness. Moreover it is only partially clarifying to discuss merely man's control over nature leading him to feel that he has a directing part in vital and other phenomena, when he is himself impelled to whatever he undertakes or accomplishes more inevitably than a slave in a galley.

In apparently a further effort to placate man and condone nature, the contention is made that in the relations of animals to each other, the sacrifice of the individual and the preservation of the group, operate for the good of the colony, race or species; that race preservation and evolution is the supreme good and all other considerations of the individual are subordinate to this end. It seems possible to state this more simply by saying that nature has to care supremely for the good of the individual in order to care for the colony, race or species. As a matter of fact nature does not appear to care for either the individual or race, because it is not within human comprehension to so diagnose the cares of nature. To personify nature is a lazy man's way of appearing erudite.

The statement to the effect that scientific means are to be employed to improve the individual and race does not include anything concerning for what purpose the improvement is necessary, i. e., war or peace, for example, or that such improvement will insure the individual or race against destruction, or that either will be preserved for the larger attainment of that which is regarded as the greatest and most distinctive of human traits, namely, reason and consciousness. For even with regard to these it is said that they have revealed a world of evil as well as of good; a world of struggle and failure, of suffering and sorrow, of injustice and selfishness, of disappointment and despair—a world of pestilence and death in which the innocent suffer and sometimes the guilty; in which evil is often rewarded and good punished; in which all higher animals are born in pain, brought up with measureless care and trouble, live a life in which struggle and suffering are mingled with brief satisfactions and joys, and without a single exception go on to inevitable decay and death. Doubtless reason and consciousness justify their evolution just as certain idealists seem able to justify and explain soothingly everything in nature—hideous or otherwise. But the human mind is prone to seek a reason for whatever stimulates it—hence mysticism, superstition, logic, science. Man may, in his awareness of certain phases of the course of nature, postulate directions as to this course which ostensibly explain, justify or deify it. But whether man does or does not postulate directions, or whether he is or is not aware of nature's course, makes little difference to nature. All the mental excrescence of deists, vitalists, evolutionists, mechanists, nihilists, or of any variation of these do not and will not affect that course of nature about which they argue and would contribute the last word. Man talks too much where nature is silent and where he is logical at all, he uses a logic of necessity rather than the logic of fact.

The frequent invocation of education for the purpose of improving the minds of men rather too flatteringly indicates the presence of minds for which educational machinery might function. Education has no power of itself. It is only a label for what sometimes happens to those who subject themselves voluntarily to mental discipline. Likewise religion, as though it, too, were a discrete entity, is to be employed to improve the morals of men, but the moral sense of man conditioned the development of his religion insofar as his religion entails a moral aspect.

While biology is the science against which so many spurious accusations have been made, it does not appear that biology has any apology to make to society as a whole or in part, neither does nature require justification for her maneuvers. The charge made that neither animals nor men can struggle for an existence they already possess, but that they struggle for improvement and that what is needed in this struggle is a most significant cooperation ignores the fact that men and animals alike do struggle for a continuance of existence whether for improvement or otherwise. A most significant cooperation may be necessary, but what the world needs, it would appear, is not a statement of the need, but an actual disclosure of the *means* for obtaining and operating this most significant cooperation. Perhaps nature is so light-hearted and playful that she is concealing the means as a practical joke.

The same critical mind that finds animals and men struggling for improvement and needing a most significant cooperation also makes the further statement that Darwinism justifies the sensualist at the trough, Fashion at her glass, Prussianism at the cannon and Bolshevism at the prison door. Of course, none of the above characters has ever been heard of in Darwinism or biology. Darwinism neither justifies nor attempts to justify any of nature's products. This function seems to have been appropriated by pseudo-interpreters of Darwinism. The nature which makes the sensualist, the Bolshevist, the Prussianist and servile follower of Fashion must bear the burden of reproach, if such there be.

Venders of opiates for social ills have as their stock in trade it seems two chief brands: one brand functions in the claim that if evil were lacking good would prevail, at least this is what the claim can be reduced to. As has been seen, evil is the necessary and inevitable corollary of good. The other brand functions in embodying what purports to be actual solvents and eradicators of ills and evil. Thus is found in the latter brand an imperious need of more mind—more critical thinking. Given more mind and therefore more critical thinking and behold a wretched world made joyous. But here again one faces the cold fact that in the evolution of what mind there is, there has been revealed or produced many of the existing problems which the human environment reflects. As much as one would like to have faith in the efficacy of more mind, nevertheless it is not the solvent or even salve for human pain and problems. If everything else in this changing world could be kept constant while the human mind developed efficiency commensurate with the human problems it has generated by revealing them, one might lend a favorable ear toward devising ways and means of obtaining such an increase of mind. At present it does not seem remotely possible that the kind of mind-increase desired can be obtained biologically without the imposition of disproportionately greater and greater stresses in the social or nervous machinery. The human mind in the development of its present capacity for dealing with larger problems usually finds that the relation of capacity to problem is as embryo to adult. And characteristically embryonic is the notion of some that though born later the embryo can overtake the adult. But the adult is as fecund in defeating old age as the embryo is sterile in attaining its adolescence and maturity. Nature in increasing the load-carrying power of man has always a load equal to or greater than the increase in ability to carry. The squirrel with a nut and man with a sack are equally laden.

Another sample of how evil may be eradicated is found in the time-binding faculty of man. By virtue of this time-binding faculty the past is made to function in the present and constructively reveal the future. The discoverer of time-binding or time-binding faculty insists that this faculty is restricted exclusively to the human animal. The mere discovery of this human time-binding capacity, which the discoverer says functions according to the formula for geometrical progression, constitutes at last the full and perfect approach to Utopia. Of course, the discovery must be proclaimed at large and such is being attempted. Once man becomes acquainted with the fact that he is a time-binder, all human difficulties begin with celerity to vanish and a perpetual millennium is at hand. Obviously the matter is not so simple. Man, to be sure, may use and does use helpfully the experience of the individual, species or race to a relatively much larger extent than other animals in general. The difference in the use of such experience on the part of man and other animals is merely one of degree. Moreover, the time-binding faculty of man has in its operation solved no problems whose solution has not thereby conditioned or generated others. Here again a dissertation on the memory-function of man, racial or otherwise, by means of which he avoids tomorrow the disagreeable of today or yesterday, is entertaining, but the relative chaos of the present and past as compared with the predicted future which the discovery of the time-binding faculty makes possible is no more changed in its fundamental aspect than the discovery of the law, doctrine, or theory of evolution has changed evolutionary processes. With regard to evolution, some have sought to keep faith with science and God by saying that the horror of the processes manifest were and are justified by a predicted future in which man would evolve into that perfection observable only on the veiled face of the Creator Himself. If time-binding and evolution were test-tube experiments in which the reactions therein could be observed until standardized, predictions might then be made with regard to them with some degree of reliability.

Finally, is the question of whether the average man can stand a universe robbed by science of the supernatural and its consolations; of whether the man of the streets in accepting a mechanistic conception of life will not be led to such behavior as will jeopardize the existing social order. The answer to this question is doubtless that whenever the man of the streets can grasp a mechanistic conception or any essentially rational conception, he will cease to be labelled as such, nor will he need the consolation of the supernatural. The proponent of the question is himself more alarmed by the steady advance of science into social channels than the interest he manifests in the common man would indicate. It is the pseudo-intellectuals themselves, not the average or common man, who are alarmed over the mechanistic conception. They want to hold with God and run with science. To the extent that any man can actually grasp as a real scientist does the scientific or mechanistic point of view, he becomes a better and more worthy citizen. False interpreters of science to the public, mental Bolsheviks and other jugglers with fact, however, one may biologically expect, like the poor of whom Christ spoke, to have with one always.

INDIVIDUAL DEVELOPMENT

BY HENRI VANDERBYLL

WE DO NOT always stop to consider that the changes which man has wrought upon the earth in the short time of a few thousand years are little less than miraculous. Even less than a century ago, no railroads crossed the continents, no steamships the ocean. The streets of the city were not noisy with the honk-honk of the automobile and with the clang of the street-car bell. No telephone operator kept you waiting for your party, no elevator shot you up to the twentieth floor of a skyscraper. The glare of electric lights was absent, and moving pictures had still to be dreamed about. That was less than a hundred years ago! Now let us consider conditions of ten thousand years ago, ten thousand years that amount to less than a century in the history of the earth. There were no cities or roads, no castles or homes, no indications whatsoever of human civilization. Man lived in caves and in underground holes, and the world was as still as the jungle with its unseen inhabitants. A column of smoke, rising up through the soil apparently, was perhaps the only indication that intelligence dwelt upon the earth. A hundred or two hundred thousand years ago, insignificant periods of time in the hundred million year existence of this planet, even the smoke that must reveal intelligence was absent, and the cave was inhabited by wild beasts. That which was to be man, swung itself from tree to tree. Nevertheless, the earth looked earthly, with the wild beasts roaming the forests, the mountains looming high, and the streams pouring themselves into the lakes. Even this more or less familiar scene was gradually created in the course of several millions of years. Time was when the earth was a desert of granite and water, with the beginnings of life concealed in the depths of its seas.

Marvelous changes, these! But still more marvelous is the force, or are the forces, that brought about these changes. Modern thought has, with a few exceptions, dropped the notion of an extraterrestrial force that spontaneously created man and beast, and then launched them on their respective journeys of life. Scientific researches point at the fact that the forces which aimed at the development of the individual were present on this earth from the beginning. This does not imply, as some people who are prejudiced against science and its discoveries are overanxious to assert, that the scientist altogether rejects the notion of a supreme Author. Only an utterly brainless person will do that. What science does is dispense with the necessity of deity suddenly becoming active with the occurrence of an event, important or insignificant as it may be. In other words, it pushes mystery farther and farther into the background, fully realizing, however, that it is mystery which it is pushing back. Where the ancients, for example, heard the angry voice of deity in the rumble of thunder, and saw the flash of his eye in the bolt of lightning, science explains such phenomena without requiring the intervention of supernatural agencies. But it stops short at mystery, and it faces a more or less ultimate, when it asks the question: What is electricity which causes the flash of lightning, which in turn causes the sound of thunder? In considering the process of individual development, therefore, it accepts given conditions on this earth at a given time, realizing that the conditions emerged from an infinity of existence, and time from the bosom of eternity. It cuts the changing film of terrestrial life from the endless film of eternity, and attempts to make clear what occurred between the two lines that separate it, at one end, from an unknown origin and, at the other end, from an unknown destiny.

The theory of evolution considers, or should consider, rather, two factors in the process of individual development. The first is the nature of the individual, the second, the nature of its surroundings. Especially when applied to the case of man, the modern age is inclined to dispense with either the one or the other. The part which the individual plays in the process is often ignored by the theory-of-circumstance advocates. Several modern thought movements, on the other hand, would eliminate the influence which surroundings exert upon the individual. But, the lines, "I am captain of my soul, and master of my fate," though inspiring, do not altogether express the truth. They exclude the presence of an external world and, consequently, ignore its reaction upon the soul. Nor do Khayyam's lines, "Ah, love, could only you and I with Him conspire, etc.," suggest the complete truth. The role which the individual plays in this "sorry scheme of things" is not even hinted at. A homely illustration will perhaps make clear how surroundings react upon the individual. When fire is held against a piece of paper, the paper will be consumed. When we let the paper represent the individual, and the fire the external world, then the external world destroys the individual. Now, there are two things that make the destruction of the piece of paper possible. The first is the flame, and the second is the nature of the object that is being consumed. If the flame which is capable of consuming the paper is held against a steel bar, destruction does not result. It is undoubtedly true that the nature of man's surroundings changes his being. But the nature of his being determines to what extent and in what manner his being shall be changed. Similar external conditions affect different human beings in a different manner. All of which makes human evolution a highly intricate problem, especially when considering that, today at least, no two individuals are alike.

It may, on first consideration, appear to be a more or less startling fact that the external world assumes the attitude of the consuming fire towards the individual. The creature and the universe are fundamentally antagonistic. Yet should we not conceive life to be a battle consciously waged between two enemies. The struggle is a natural, and therefore a necessary one, and neither of the combatants is aware of the identity of its opponent, or conscious of the nature of the struggle. The simple truth is, that wherever life is present there is also activity. And activity in the universe involves friction, opposition, antagonism. That is to say, individual activity in a universe consisting of billions of creatures that possess different constitutions and widely divergent aims, necessarily results in friction. The direction in which a particular member of the universe travels is determined by the nature of its being. Its progress, however, is constantly interfered with by members of a different nature whose aims oppose its own. The result is that the individual is compelled, every now and then, to deviate from its original course. That compulsion constitutes a source of experience for the individual, and results in physical or intellectual change, in accordance with the circumstances.

Both physical and intellectual development may thus be conceived to have resulted from interference on the part of the external world with the progress of the individual. The first living things that inhabited the primordial seas were eventually opposed by changing external conditions. They were threatened with harm and with destruction, even. Their individual constitution determined whether they were doomed to perish or whether they were to adapt themselves to the conditions of a new external world. The process of adaptation consisted of a slow and gradual reconstruction of the organism, of the acquisition of new organs, and the final result was a new creature which was better able to face conditions and circumstances. Stating the matter in the foregoing manner, however, is merely touching its surface. At the bottom of he whole question of individual development lies a very interesting fact. It is this: the developing individual comes in touch with a constantly-growing external world. In a previous chapter we observed that the beginnings of individual existence are marked by an intense degree of self-centeredness, and by an almost total absence of awareness of not-self, or the external world. The universe of things and creatures, we stated, was wrapped in sleep, a sleep which is the more profound in the lower degrees of development. The being's degree of awakeness is determined by the nature and the variety of the impressions which it is capable of receiving from its surroundings. The more simply constructed the creature is the fewer are the impressions that reach it. Now, the friction resulting from contact with an antagonistic world arouses the individual from its state of lethargy. The phenomena, conditions and living beings that are capable of threatening its existence, constitute its source of experience. They compose its particular universe, of which it is ever so dimly aware. They arouse the cells of the body to creative activity, and cause a physical reconstruction to answer the urgent call of necessity. The reconstruction of the body generally implies a greater freedom of movement, so that the individual henceforth must come in touch with a larger and a more intricate external world. The number and the variety of impressions will increase in proportion, as a result of which the creature's world of experience will widen considerably. The new experiences, in turn, will again arouse the creature, to a small extent, from its profound natural sleep.

In the very beginnings of physical evolution, therefore, we may discover an unconscious search on the part of the individual for the universe. The search in question is aided by the creature's natural surroundings whose antagonistic features eventually prove to be an urge to create. The light of the world penetrates into the self little by little as the individual is urged, coaxed, or threatened to become to a less extent aware of self, and to a larger extent aware of the external world. In this connection, evolution's immediate object is a greater ability on the part of the individual to move about. Her ultimate aim is the perfection of a body that enjoys as large a freedom of movement as possible. Thus we see primordial sea-life cast upon a hostile shore where, in due time, it develops into a creature that is able to live both in the water and on shore. This greater freedom of movement develops into a still greater one when the amphibious creature becomes a land animal as a result of wandering into the interior. And, finally, evolution accomplishes her million year old task of fashioning a body which, in co-operation with an instrument yet to be created and developed, will enable the individual to be in touch with the universe in all its infinite entirety.

Physical development has, roughly speaking, ceased. Nature, at a certain moment in the history of this planet, seemed satisfied that her attempts at body-fashioning were triumphantly successful when she produced the human body. She proceeded to devote her ability to the problem of creating and developing an instrument which would allow the individual to discover a universe still larger than the one with which his body could acquaint him. That instrument was the human mind. The various steps taken by nature in her million year task of moulding the human body are still traceable in our present vegetable and animal kingdom. The noblest result of her efforts was placed by her among her lesser creations, after which he proceeded to fight his way to glory.

Intelligence introduced itself when the external world caused the individual to become aware of its presence. In earlier stages of development, the creature responded to the impressions which it was capable of receiving from its surroundings in much the same manner that a photographic plate responds to the stimulus of light. There was hardly question of awareness. It did not know that an external world existed, nor that it impressed its being. It merely automatically responded to its touch. The intelligent individual, on the contrary, not merely received impressions, but knew that it received them, and in the course of further development began to reflect upon the nature of the world of which it was aware. Natural surroundings failed to act as a stimulus for physical creation upon a body which an age-long process of improvement had rendered incapable of further modification. A threatening external world, in the particular case of the individual who was ripening into an intelligent creature, meant destruction for the latter unless he met the emergency with a flash of reason instead of with physical adaptation. The employment of reason marks a departure from the old way of reshaping the body to comply with the tyrannical demands of nature. With the appearance of intelligence, the absolute rule of nature came to an end, and the rule of man was being established.

That the wholesale destruction of the brute man who in inconceivably far-off days stood on the threshold of intelligence did not take place, is due to the fact that every individual possesses an unconscious desire to continue to exist. That desire, in the earlier stages of development, resulted in physical adaptation, and in maturer stages, in the ability to reason. The nature of the brute man's surroundings harmonized with the coarse nature of his groping soul. Immense and dangerous forests, ferocious beasts of monstrous size, thunder and lightning, torrents and floods, constituted the surroundings into which he fitted. Nature in her wildest aspect, nature with her ominous frown and her roaring displeasure, was the original blunt instrument that began to mould intelligence. The deep-hidden desire to exist, rising to the surface in the face of threats of destruction, struck the first spark of intelligence in the hitherto dormant brain of our hair-covered ancestor. When the stone for the first time assumed the shape of a weapon that would protect him from the attacks of possible enemies, intelligence henceforth was to accompany him on his terrestrial journeys. The bitter cold drove him into the caves which the wild beasts showed him afforded shelter and warmth. The fur of the animal averted the danger of freezing to death. Indeed, the very threats of nature resulted in his gradual conquest of her.

The method employed by evolution in her scheme of developing intelligence was similar to the one used in the process of physical development. Again we observe that an antagonistic external world constituted a stimulus for creation. But, in this instance the creation was not of a physical but of an intellectual nature. And, again, we remark that surroundings rudely awoke the individual from his intense sleep of self-centeredness, and drew his attention partly from self to a world of not-self. The unconscious search for a world beyond self met with considerable success when the first human beings became aware of their surroundings. That awareness meant infinitely more than the mere response to external stimuli on the part of the purely physical creature. It meant, figuratively speaking, the opening of the individual's eyes, resulting in a condition of half-awakeness. For the first time in the history of this planet, a creature was in a position to remark that it existed, and that something else beyond its self existed. Before that glorious moment, the universe had been a dream, a sleep, an utter darkness.

But, this ability to be aware of an external world represented merely the first step in the direction of true intelligence. At a later date, the individual, besides receiving impressions, and besides being aware of the thing that impressed his soul, acquired the abilty to reflect upon the nature of the external world of which he was aware. Before the acquisition of the latter power, man lived, in a physical sense, only, in the universe which he particularly noticed. Those things and phenomena drew his attention which stood in immediate relationship to his physical well being. In other words, the world of immediate contact, the world that furnished his experiences, was the universe in which he dwelt. It is hardly necessary to observe that the universe in question was of an extremely limited nature, and that it contained but comparatively few objects and phenomena. The actual universe of infinite intricacy and size was looked at but not seen by him.

The world in which ancient man lived, however, grew and became more intricate as he, himself, experienced and developed. And the moment arrived when it not only represented the physical world of immediate contact, but also the world upon which he reflected. The moment arrived when he lived in a world of his own both in a physical and in an intellectual sense. At first, the experience furnishing world was also the one thought about.

Gradually, however, imagination took wing, and wove its fancies about a universe that exceeded in size the world of immediate contact. We may formulate the general rule, however, that the world in which man thought that he lived was limited, and its nature was ill-conceived, in proportion to the smallness of the world of experience. Primitive man probably thought about ten objects that constituted, chiefly, his immediate surroundings. The Sumerians pondered over the mystery of the sun's presence and its nightly disappearance, over the phenomenon of the moon's phases, and over the brilliancy of Venus. Their thoughts traveled beyond their world of experience into the vastness of the deep. Today, we sit in our office reading the latest news from Siberia and the South Sea Islands, and reports about the birth of a new star in the unfathomable depths of space.

The farther back we penetrate into the past, the smaller becomes man's universe, and the more absurd are his interpretations of its phenomena. Being, at first, an almost purely physical creature, only those objects and phenomena that, directly or indirectly, concerned his physical self drew his attention and eventually stimulated his thought. The plain fact is, that man's belly first discovered the universe. Prehistoric man, for instance, was deeply interested in the phenomena of wind and rain, of sunshine and clouds, of heat and cold. Such phenomena had a decisive voice in the matter of reaping a harvest or of facing a crop failure. His universe of objects was as limited as his world of phenomena. He was aware of the prominent and of the to him important features of his immediate surroundings. The soil that lifted the green blade above the surface, the bulky mountain that rose in the vicinity, the tree under whose spreading foliage he found protection from the scorching sun, the spring that generously bubbled up its cool treasure, such things naturally interested him.

There is something wonderful, we think, about the method employed by the secret Author of man in the process of developing his intelligence. Ancient man was a human brute whose senses and whose brain were almost completely cut off from the presence of a scintillating universe of law, order and divinity. He was deeply absorbed in self, and his sole concern in life was his belly. And, yet, it was this vulgar life's concern of his that compelled him to pay attention to the existence of an outside world, and that subsequently induced him to reason about it. His explanations of phenomena observed, and his conceptions of the nature of objects perceived, were ridiculously false. Prehistoric man discovered a magical, divine power in the raindrops that vivified his perishing crop, in the earth that pushed the green blade through the surface, in the remains of his fellow man that fertilized the soil. In time, he transferred the seat of this magic power to one of his brothers, whom he carefully guarded as the "divine man" with a view to sacrificing him at the appointed time to the corn-producing soil. Absurd notions and customs, these, of course! However, existence in those days had its narrow limits, and comparatively few things occurred therein. The mind of the infant man was like that of the child which is chiefly absorbed in self and, as a consequence, incapable of being aware of the innumerable and beautiful things that constitute its surroundings. The truth of the universe is never approached by limiting thought to an infinitely small section of it. Although the ancient man's interpretation of the external world, however, was highly absurd, let us reflect that it represented the first speech uttered in a hitherto silent universe. What becomes of the ugliness of man's yesterdays when we consider his baby talk concerning his wind-swept and sun-lit home in that light? It was speech, we say, no matter how inarticulate! It marked the first awakening after an eternity of sleep, and it introduced the first conscious life in an infinite universe of unknowing life!

We remarked that developing man became to a greater extent aware of the existence of a universe as his self-centeredness decreased. His growing ability to become universe-conscious constituted his real and inner development. Poetically visioned, his original being was like the soul of a flower dwelling within the darkness of its closed petals. Seen in the light of cold facts, it was the soul of a more or less intelligent animal whose interest was chiefly centered in its physical comfort. We roughly outlined the method by which evolution caused the petals to open, as a result of which the dawning light of a universe penetrated into the human soul. We observed that the growth of the soul was accompanied by a greater freedom of movement, both as regards the body and as regards the mind. The physical world with which man was directly in touch, or was capable of being in touch, expanded in the course of time, and the world in which he thought that he lived became larger and more intricate. For the present let us consider the growing world of immediate contact.

Nature, we observed, was man's first teacher. Her methods of instruction were more or less crude and barbaric. But it should not be forgotten that her task consisted in chipping away the coarser features of an unripe soul. Even at present, we find that life teaches the soul according to methods that fit a particular case. One man suffers physically, another financially, another spirtually. As ancient man possessed neither finance nor a spiritual nature, but a strong, hair-covered body, chiefly, nature made her appeal via his body and his stomach. We saw that her threats urged him to reason, that reason subsequently adopted the cave as a home, invented stone weapons and primitive clothes. Man became a tool-using animal. His use of tools more than anything else, eventually became instrumental in bringing about his greater freedom of movement upon this earth. At first, it was nature's threats that drove him from his cave, and made him wander over the face of the earth. Migrations of tribes and races were started by the severe cold of glacial periods, by floods, droughts, and topographical changes of the country. Travel and new surroundings involved new experiences and eventually resulted in new thoughts, new tools, new arts, new civilizations. Today, nature still remembers her ancient method of broadening the minds of men, when dissatisfied citizens emigrate to foreign lands in the expectation of "doing better."

On the whole, however, nature is no longer the cruel but kind teacher of former times. When man began to answer her with his intelligence and with his tools, her voice began to sound considerably less harsh, and man snapped his fingers at her threats. The tools slowly and gradually built a bulwark of protection against which nature vainly spent her wrath. After protection of the physical body had become an established fact, she almost completely ceased to be the chief instructor of mankind. Instead, she became slave to human intelligence. A new influence, a more or less unnatural one, began to further stimulate intelligence. That influence emanated from the particular sort of life, inaugurated by man, himself community life. But, this new teacher of mankind we shall discuss in a later chapter.

The tools that man invented, and the objects that he created, were, as stated before, at first intended to protect the physical man from the angry moods of nature and from the dangers that lurked in his surroundings. Eventually, however, they became instrumental in facilitating his movements upon the earth. The unconscious desire to discover the universe, in the past urged him on to explore his terrestrial home, and tempts him today to travel to the moon and to the planet Mars. Transportation facilities were first discovered in nature, in the horse, the camel, the elephant, and the ass. Then followed combinations of natural products of intelligence, such as a horse tied to a cart. And, finally, as in our present age, the horse is eliminated, and intelligence causes the cart to move itself. The less man's inventions savor of nature, the more efficient are his tools, and the more sublime are the objects that they fashion. That sounds startling to many who instinctively dislike the artificial world of man, and vainly long for the beauties of a nature undefiled by human ingenuity. The natural, however, is the original, an original which is also unintelligent. Man, the brute, nursed at nature's breast. Man, the thinker, is a member of civilized society. Man, the brute, found his tools among the rocks of the wild. Man, the scientist, fashions them from keenest imagination. The nature man tread where his physical strength permitted him to proceed. Modern man considers, to a certain extent, at least, the rights and the aims of his fellow man. We see the human being, with his tools and with his created objects, rise from the rocks and the wilds of nature, and establish himself on a higher level in a world whose foundation is becoming more and more intellectual and less and less physical. His early inventions, therefore, suggest the physical, the self. Necessity, as the proverbial saying has it, is the mother of invention. No thing was invented for the mere sake of inventing, or in behalf of suffering humanity. The self and its needs, its desires, its cravings, was the great inventor and manufacturer. The evolution of the tool, however, kept pace with that of the inner man. So did that of the objects which the tools fashioned. As man lost some of his self-centeredness, his tools became more intricate and efficient, and his creations more wonderful. It is a fact, no sufficiently realized, that the ability to be aware of not-self enables the inventor to concentrate on his subject, to thoroughly study all its details, aspects and possibilities, and to achieve success in spite of obstacles and hardships. The great inventors of the human race had little concern for self, and sacrificed its wants and desires for the sake of reaching their object.

Man's conception of what is necessary and desirable changes as he changes, and as the conditions of which he is the immediate author alter. The cave of Neolithic days became the reed and the mud hut of early Sumerian times, the tent of ancient Nomadic tribes, the villa of Pompei, the romantic castle of mediaeval times, the modern sanitary and efficient bungalow. The original animal skin evolved into a more and more intricate system of covering the body, until it finally culminated in the modern stiff collar and the evening dress. The roughly chipped tool of flint which primitive man wielded in glacier covered Europe was the foundation of our modern skyscraper. propels our palatial steamer, and gives speed and wing to our flying machine. Nor can it be denied that man's material paraphernalia, at any time, are vaguely indicative of a certain existing degree of intelligence. We do not think, however, that their improvement, or their possible perfection, are the chief aims of human evolution. Particular living conditions belong to a particular degree of human development as a nice cover belongs to a good book, or as a cheap one fits a trashy novel. Clothes do not make the inner man, nor does a palatial home tell us anything definite about the quality of gray matter within the owner's skull. The truth is, that tools and created objects, although indispensable, play subordinate parts in the scheme of human progress. They are, as we have stated, to a large extent instrumental in assisting man to discover the universe. They enable him to travel about, as a result of which new experiences add to his soul. History, from 5000 B. C. to the present, furnishes a clear example of the steady growth of man's world of experience. At first, there merely was intercourse with wandering tribes. At a later period, the human world of experience was concentrated on the shores of the Mediterranean. Then it included Europe, North Africa, Minor Asia, and a part of India. The day came when imagination spurred courageous men on to discover new worlds across the oceans. World empires were founded by the Portuguese, the Dutch, the Spaniards, and the British. Necessity clamored for new tools to adequately meet these new conditions. The railroad, the steamship, telegraph, telephone, wireless, and, last, but not least, the flying machine, responded to the call. Man's present world of experience or, rather, the world in which he is capable of experiencing, constitutes the entire earth. Quite a different world from the one of two or three thousand years ago!

And, yet, the desire in man to discover the universe is still present, more so than ever, perhaps. Being able to travel around the world in comparatively few days, to read at a glance what happened some hours ago in Moscow, London, and Sydney, does not satisfy him. He is actually considering the problem of traveling to the moon, and the one of communicating with Mars. It is difficult, at this time, to venture an opinion concerning the possibility of human extraterrestrial journeys. Considering, however, man's ultimate origin in the depths of the sea, his extremely narrow world of experience in the beginning, the subsequent life on land, the successful explorations over the entire face of the earth, the establishment of railroads and steamship lines that encircle the globe, recent journeys through the air, who can tell but the moon and Mars are waiting to be explored by a universally-minded human being of the future? The earth is indeed but a pinpoint in the immensity of existence.

The changes which man has wrought upon the earth, as we observed at the beginning of this chapter, are miraculous. He has dotted its face with cities, he has spun an intricate web of roads and railroads across its surface, he has lit its countenance with a billion electric lights, he has harnessed the power of waterfalls, diverted rivers from their natural courses, bridged abysses that separated continents, sunk shafts into the bowels of his planet, and viewed his earthly home from the dizzy heights of the sky. These feats were performed within the boundaries of the world with which he was in immediate, physical contact. But he performed other miracles, miracles that are not physical and concrete. They were performed in a world imagined, a world which in magnitude far surpassed the limited world in which his body was capable of moving. Every now and then, further exploration of the external world appeared to be a physical impossibility. His mind then proceeded to do what his body was incapable of doing. His imagination, a product of his increased ability to be aware of not-self, broke through the barriers of physical limitation, and made trips into immensity. What it saw on those trips was added to the Thoughts of Man, thoughts that were constantly revised as the trips became more extensive, and as the mind's powers of observation and reasoning became more accurate. Of course, the first human imaginings were almost identical with fancies. A conception of the true nature of immensity, if it be at all possible to acquire it, must be founded on a mental bird's eye view of the whole. One cannot know a skyscraper by its basement, only, nor the universe by a little patch of earth. That is one important fact we modern enthusiasts are pleased to overlook.

These intellectual journeys into the universe resulted in thoughts which may be classified, in accordance with their nature, as follows: Mythology, Religion, Science, Philosophy. Of these, we hold mythology to be close akin to fancy, and philosophy to approach a fact-supported imagination. Religion, in our opinion, represents the transition between mythology and philosophy, whereas science links man's growing world of experience and the universe in which he thinks that he lives. It is in science that man's thought of self is hardly distinguishable from his thought of not-self. True, many inventions were made for the purpose of protecting, pleasing, or coddling self. But an equal number, the majority of which belong to recent history, are the result of personal sacrifice, the impersonal desire to know, and the unselfish purpose of ameliorating the struggle of human life. It is indeed difficult to draw a dividing line between the material and the intellectual paraphernalia that at present accompany man through eternity. As stated before, the origin of man lies in nature, in the physical, and his immediate destiny is an intellectual life, so that the physical and the intellectual blend in many of his expressions.

Besides material and intellectual accomplishments, man must be credited with accomplishments in the way of morals and ethics. The latter are dependent upon, and result from, his intellectual conquests. What he saw on his journeys through immensity, for one thing, was reflected in his behavior towards his fellow man, and in his activities in general.

ART AND SCIENTIFIC EDUCATION

BY HARDIN T. MCCLELLAND

WHAT a fine prospect it is to look forward to that as yet promissory millenium of art and science when man will understand Nature and relish her inevitable measures of law and industry, creative power and naive beauty. The inspiring influence of such an aesthetic promise is in itself an ennobling force in the contemporary world, although any situation which offers possibilities of understanding and love and spiritual refinement is always rich in just those patterns from Nature which are worthy of our devotion. In that goodly age we will look to things truly exemplary of the Good for our action-patterns, to things really just and worthwhile for the skill-limits of our conduct as well as for the efficiency of our meditations, so that they may be broadened and validated for a more wholesome useful life.

I believe it is to be largely by an honest patronage and pursuit of the arts and sciences that the future will realize a method of social readjustment and control far more durable and efficient than the petty system now in vogue. But if failing of this last resort what hope for philosophy and religion, even though exquisitely refined and given prestige in academic arenas of conflicting aims and idealisms? There are not enough people living normally balanced and intelligent lives to make even a sufficient minority power to filibuster the actions and wishes of our vulgarian age; so how can we lay adequate plans for bringing the arts and sciences to bear on our social problems when we have not much more than staked our claim and sent a few sample ores to the refinery?

The work of the near future is not to be so vain, theoretical and controversial as it has been in the past, for even now a dynamic psychology is ruling out the inane and trivial affairs, the catch-penny wisdom of base motives, vulgar scheming and opportunist livelihood. And it is almost certain that the faith we place in the future as a time of nobler living and jubilant ethical arrangements shall not be proven ill-advised, but will be well rewarded with realization and achievement. The arts and sciences shall supply much of the new apparatus, and the new empirical understanding derived from them shall help us to develop more and better methods of mental and spiritual application so that our energies and intelligence will be able to accomplish the work and realize the religion of the future. This work and this religion shall not be worldly but heavenly, not vulgar and mercenary but devout and free; they shall not rest wholly in material refinements, inventions or physical ministrations merely, but will look more and more to the spiritual communion and aesthetic understanding of people grown erect in just and righteous living. The future is already being prepared for and previsioned by the several courses now offered in what is called scientific education; it is being made preexistent by our very anticipations and preparations. The venerable traditions of old which were treasured and taught in what was called a classical education could not prophesy or foresee anything; such an education being more reflective and given to fond retrospects than to action and the bright prospects of enthusiasm. However, it is a sort of artificial arrangement to view human life as covering a temporal series of past, present and future, because for us either as thinking or as acting units in the eminent domain of consciousness the past only exists as a present memory or innate tendency while the future exists only as the bright visions of hope, ambition or the promised land of our dreams. Hence in either case the facts of the situation are the same. Founded in the soul's innate *gnosis aesthetikos* where all the arts and sciences really originate and find their true devotion, in the mind's intuitive response to the beautifully good and true, Art and Education stand forth as the dual affection and expression of human genius. With these to guide and counsel us such work and faith as shall be required in the future will be adequately inspired and given sanction for dynamic application to whatever personal or social problems may arise. Then will we begin to see signs of an approaching glory, a millenium of happiness, peace and worthy industry.

But let us not try to force an issue between Art and Science as being mutually exclusive or antagonistic, as has been deplored recently by John Galsworthy in an address before the New York Society of Arts and Sciences. There is justification aplenty for the view that our arts have not yet become so materialistic and mercenary as have our sciences, that they have rather been more inclined to hold aloof from the smoke and wheels and grimy overalls of the world.

Even though it is quite probable that the arts have been more open to scientific influence than the sciences have been to artistic coloring, still we cannot doubt that the former are far the more conservative of the two. Unlike the ready utility values which make Science so generally applicable to the affairs of the world, Art is more bashful, more cloistral in its plans and functions; it seeks perfection rather than utility, it functions in the spiritual rather than in the material world. Also unlike the sciences, the arts (i. e., all of the *fine* and most of the *industrial* arts) are still seductive in their subtle spiritual charms, still sweetly alluring in the naive purity, the modest beauty and the impassioned truth of which they are sacristans as well as vestal priestesses. While the sciences may or may not be gloating over any rabid post-war conquest, yet neither are the arts suffering any passive rout, although they are somewhat disorganized and suffer an appreciably decadent morale owing to the treachery of cowards and fools and spoliators in their ranks.

Both the arts and sciences, as pursued in general practice, are now in mutual carnival and presage a far more effectual companion role than even their present indispensable functions seem to promise. Their devotees seem done at last with the vandal lusts and vainglory of a vulgar creed which listed nought but greed and war and pestilence in its chronicle of specious valor. Their aims are more clear-seeing and their trumpet-call is Forward, leaving all those clutch-geared souls of past monopoly in the lurch. The tawdry garments of cheap idealism no longer clothe the arts and sciences which still remain erect and free of moral poverty, for they have been cast aside in favor of the virgin raiment of a nobler spirituelle. It might even be said that in view of the recent number of romancing accounts of scientific achievement, the gradual increase of writers, teachers, artists and other travailleurs intellectuels who are trying to be the match-makers for the future marriage between Art and Science—from this fact alone it might be argued successfully that the pure (if not the applied) sciences are growing more romantic and artistic day by day, that the arts are gradually being rendered more accurate with Nature and more constructive of the social good by keeping intellectual company with philosophers. If so, then it is only a step from this situation to the one I have already suggested, namely that the future will see not only mutuality but oneness between what are now differentiated as the two spheres, aims and ambitions of an artistic and a scientific education.

The miracles of religion are even now shaded and eclipsed by the miracles of art and science, for the latter are *getting at our souls with prods of fire and fascination* never before so implacably applied for purposes of enlightenment and ennoblement. Even the most inert brute on the levee or the most lazy vulgarian in the salons of the nouveaux riches cannot help but be slightly aroused and inspired by the vast efforts being made to redeem the world from savagery and vandal power. The robes of our spiritual night are gradually falling away and we are beginning to see ourselves in natural innocence and adolescent modesty. There is a growing demand for intellectual honesty, for moral faith, heroic sacrifice and generous aid for all the lesser peoples and less fortunate nations of the world. The greedy are openly cursed and condemned, the vicious are summarily dealt with by an arm of the law but recently given such august powers—public opinion and its penalties of social ostracism and spiritual boycott. Not even the naive indefensibleness of our clumsy inexperience can be considered culpable for what we do in face of mischiefs done by conscious vandal power, for we pass along an inexorable road, making largely unconscious pilgrimage to Helicon. From there alone can we see both the Acropolis and Gethsemane. From there alone can we make emprise upon the overworld and hope to bring back the golden fleece of future wisdom and virtue.

A few significant instances of how a superficial conflict between an artistic and a scientific education may be avoided are as follows: One is to be found in the early education and later disillusionment of William Wordsworth, a poet of exquisite power and charm whose best work was in the realm of philosophy and romantic morality. At first under stress of the French Revolution he entertained ideas aiming at a social Utopia of justice and heroism, but after the failure of the Girondists and the collapse of those powers to which he pinned his faith, he turned away from the evils of urban life and sought a wanderer's happiness by taking refuge in the hermitage of a melancholy philosophy. Just as Sir Joshua Reynolds followed the *proportionate beauty* of Pere Buffier's aesthetic theory, so did Professor Blackie follow Stewart and Payne Knight as against the associationists Aleson and Jeffrey in recognizing the all-round symmetry of Wordsworth's poetic art; but we now see that it would not have had this symmetry and pluralism of Platonic proportions if he had not taken up a recluse philosophy to offset the various uglinesses of worldly life.

Another instance is that of Boris Anisfeld whose fantastic symphonies in sympathetic oils and complementary colors recently intrigued the curiosity of American patrons and dilettantes at the Brooklyn Museum of Art. He worked through an early childhood of poverty and degradation, and now gives autobiographical accounts on canvas with just enough subjective metaphysic to make them problematic and symbolic of life in general. He confesses that many of his scenery conceptions for ballet or opera are direct pastel translations from the musical score rather than from the plot of the play. There is no actual conflict between his early recollections and the idealism of his decorative panels, but there is an effect which seems to result from a premature ageing of the imagination, and this is impressionistic but not contributory to either art or the science of art.

John Stuart Mill has laid a fairly solid foundation of analysis and argument to show the place of art in education as well as the place of education in art, holding that no one can practice virtue without loving it and giving it noble value any more than he can execute a work of art without having ideal conception and inspiration ever ready to carry it through to complete and perfect realization. It is a mistake to think that anyone can reverse the whole scheme of life and have either an artificial science and a true art or an exact science and a vulgar art; true understanding and nobility of character go together, no matter whether the subject of interest and pursuit be art or science. If people do not see the justice of this arrangement from the pattern of inward principle, then they should somehow be made to see it by virtue of the discipline of experience —and fortunately they usually do.

There is a certain artistic fascination about the romantic phases of modern science. For instance, the great struggle of astronomy is against variability and imprecision; it seeks to replace the personal equation with instrumental accuracy so that whatever is discovered can be proven free of bigotry and bias. We find that Laplace's famous nebular hypothesis was only an elaboration of Kant's speculation regarding the course and limitations of material development in the Cosmos. We find that the geo-orbital base line now gives way to the helio-orbital or solar arc base line for computing stellar distances and motions. In a century this amounts to about 400 times the geo-orbital diameter and should give us ample grounds indeed for determining the dimensions of at least this course of the Universe.

We hear much of how Lavoisier's solar biology supplements Buffon's physico-chemistry of life, and how both are antiquated in the recent controversy between Dr. Henry F. Osborne and Svante Arrhenius on the extra-mundane origin of life on this planet. But when we take a more philosophical view of the situation we find that the biological war is not between materialism and spiritualism but between mechanism and vitalism; that physical and chemical laws do not unconditionally apply to *all* the functions of our being, not to the whole life of man. Measurements of motion and matter do not apply to creative power, artistic genius, heroic sacrifice or spiritual aspiration. Osborne's term for replacing the old mechanistic theories of life is the *energistic,* meaning whatever is genetic and creative rather than what is merely motive and urgent, reactive or inert. Darwin's naive evolutionism of fortuity in the surviving fitness of the most adaptable organisms is overruled, regardless of Spencer's disciplinary elaborations and Jacques Loeb's mechanical tropisms. Count Korzybski however has recently shown that the primal purpose of all organisms is the storage of energy, the life of anything is but some phase of bionergic expression which at the same effort binds up just so much time and space in terms of instinct, memory, reflex appetite or aspiration. As we rise in the scale of life energy grows less materially expressed and formal (i. e., consciously directed), functions become more pronounced and perfect; the vital energies and functions soon become interactive in their natural process of preserving and fostering the evolution of life.

In many recent programs of scientific romancing there are certain far-fetched devices to win popular attention and approval. There is the easy and plausible explanation of the fourth dimension as being simply the temporal period which measures mass and weight in terms of motion, energy and duration. The eternal and the transitory can be reconciled only by thinking that fleeting things are still eternally existent, only they vanish out of the realm of conscious life and enter the timebound world of the fourth dimension. If they move fast enough, that is, if they are sufficiently fleeting and transitory, they will have no sensory existence at all in our physical tridimensional world.

Now that Professor Goddard has perfected his plans for launching a stellar rocket into space carrying with it a whole laboratory of automatic recording devices, and providing somehow for their safe return to earth, we can await some first hand data on conditions outside the earth's atmosphere. Even the failure of his propellant power to carry the rocket through rarified space would be ground for many interesting deductions. Mere quantity of data in any science is not a guarantee of a closer approach to certainty of knowledge even when closely scrutinized and arranged in logical schematism of form. Such industrious gathering of facts pertaining to the nature and immensity of the Universe is still a finite procedure offering only a finite conception after all; it matches quite closely the statisticism of modern psychology which conflicts with the old established notion of philosophy holding that any majority representation, either in or out of a positive conceptual series, is yet itself only a finite type, a special part, and does not require nor give a full understanding of the *whole* condition, nature or size of a collection.

This quantitive aim in much of our modern scientific achievement has an undesirable influence on the trend, both the ideals and methods, of what is called a scientific education. The latter then by natural process of plausibility and specious intellectual satisfaction soon results in materialism, finite sense-knowledge and a pallid humanism which falls back on automorphic judgments for persuasion and support. Above all it not only lacks provender for sustained inquisitive digestion, but it lacks the very condiments which lend zest to the intellectual appetite. Such nourishment and relish are supplied in the artistic viewpoint, in the romantic morality and spiritual insights of those who are scientific by training but esthetes by nature. The love of beauty and goodness is never so forehanded and despotic as the desire for knowledge or the will-to-power; an innate spirituelle is always more a credential of philosophy than the inquisitive instincts of sense-culture and materialism. Something on this subject was the constant burden of most of the charming as well as highly instructive criticisms of Sainte Beuve and James Huneker in literature, art and music. Both were equally versatile and constructive in nearly every branch of culture, art and science; not exactly specialists, but guides and counsellors in the subtle relations and researches of man's intellectual goods. The latter especially saw the world as from a steeple and expressed his views in fascinating affirmations of noble faith and courage.

ARABIC PARALLELS TO RABBINIC LITERATURE

BY JULIUS J. PRICE

THE progress of mankind along the lines of ethical perfection leading towards the goal of a united humanity has been accomplished by two distinct processes; the process of conceiving high ethical ideals and the equally important but nevertheless distinct process of their application to life.

If the prophets and seers of mankind give us the ideals that guide our conduct from afar, like lighthouses on the promontories of life, the lawgivers and judges formulating their practical rules and decisions place in our hands the humble candles whereby we see how to make the very necessary daily steps of life, and the great journey toward the goal of a united humanity is made up of these humble steps. We can conceive of the world as an enormous theatre in which thousands and thousands of voices from time immemorial speak in confusion. (Comp. Delitzsch, *Jewish Artizan Life in Time of Christ,* Eng. tr. 26, London and N. Y., 1902.)

To distinguish between these difficult voices is often difficult and confusing. An attempt is made in this paper to distinguish and to explain away the similitude between two distinct trends of thought that have found voice in past ages—that is, some of the ethical and legal aspects of Judaism and Mohammedism.

A close study of the subject will show that while Mohammed took little of his religious system from Christianity he was vastly indebted to Judaism both for his historical narratives, as well as for his doctrines and precepts. For after all Islam is in reality nothing more nor less than Judaism plus the apostleship of Mohammedanism. For the teachings of Christ formed no part of his religious system.

It cannot moreover be gainsaid that many of the doctrines and social precepts of the Koran are borrowed from Judaism. The unity of God, the ministry of angels, the inspired law, the law of marriage, and divorce, domestic slavery, the day of sacrifice, prayer and ablution the lextaliones, the degree of affinity, the stoning of the adulterer and many other injunctions are precisely those of the Mosaic code with some modifications to meet the requirements of Arabic social life.

We also find that the chief incidents of Jewish history are recorded in the Koran with a strange and curious admixture of Rabbinical fable.

In order to understand this better let us regard some of those comparisons.

Prayer which is a means of bringing men into a closer communion with the God of his conception, has gained a strong hold on the popular imagination through the fact of God's real and active rule in the universe. (Comp. S. Hirsch, *Die Religions-Philosophy der Juden,* p. 445ff.) This appears very evident in comparing Talmudic (Comp. Pesahim 50a; Ḥagigah 15b; Gitten 6b; Seder Flizyahn Rabba ed. Friedman 61) and Islamic theology (Comp. Musuad Ahmed, IV:66).

Rabbi Yochanan said in the name of Rabbi Jose: What proof is there that the Holy One blessed be He, prays? It is said (Is. IVL, 7): "I will make them joyful in the house of my prayer." It is not said their prayer but my prayer. And what does He pray for? Rabbi Zutrabar Tovyah replied that Rabbi had said: May it please Me to cause My mercy to subdue My anger, to let My mercy be revealed above My other attributes, in dealing with My children according to the quality of mercy and not according to strict judicial procedure (Comp. Ber. 7a).

Mohammed in imitation of this Judaic conception, propounded a similar tradition with regard to Allah (Comp. Margoliouth, *The Early Development of Mohammedanism,* p. 165 ff.).

It is not only the belief in the truth of Biblical account of miracles that enables us to pray to our Father, but the conviction that wonders and miracles are constantly wrought by Him. According to the Talmud "Even when the edge of the sword touches already a man's neck even then he must not abandon his faith in praying to God" (Ber. 10a), or "Hope in the Lord and pray again" (Deut. Rabba ch. 11). In this connection it is interesting to note the analogous conceptions with regard to prayer in Hebraic and Islamic holy literature.

In connection with the ritual language of prayer we note that the Mohammedans (Comp. Goldziher, Mohammed & Islam, p. 6) like the Jews, (Comp. Sabbath 12b; Megillah 1:8), were restricted to the use of their respective native tongues. All religious formulas then in Islam, must necessarily be repeated in Koranic language just as the Talmud demands the use of Hebrew in all Hebraic ritual. Islamic like Hebrew ritual records only one example of divergent opinion namely that of the school of Abu Haniga which was of Persian origin and allowed the use of non-Arabic tongue in ritual prayers.

Both Talmud (Comp. Ber. 3:4) and Koran (Surah 4:46, V. 9) demand ablution before prayers.

It was a beautiful saying of Rabbi Jochanan (Jer. Ber. V. 1) that he who prays in his house surrounds and fortifies it, so to speak with a wall of iron. Nevertheless it seems immediately contradicted by what follows: For it is explained that this holds good when a man is alone but that when there is a community prayer must be offered up in the synagogue. We can readily understand how, after the destruction of the temple and the cessation of its symbolical worship, the excessive value attached to man attendance at the synagogue would rapidly grow in public estimation till it exceeded all bounds of moderation or reason. As a result of which the Rabbis say "that prayer which a man addresses to God has only its proper affect if offered in the synagogue" (Ber. 6a). Rabbi Josi is recorded to have laid down the rule (that unless unavoidably prevented from attending) a man's prayer is not heard outside of the synagogue (Ber. 6a; comp. also Maimonides, Hilhoth Tephilah, Sec. 8, Hal. 1). And the Talmud goes a step further in the assertion that "God is to be found only in the synagogue (Peah, 1:1; Aboth 3-3-7; A. Z. 3a; Sabbath 30a). The Talmud derives it from Ps. LXXXII:1, wherein it is stated that God stands in the congregation of the might.

In a somewhat lengthy passage in Berachoth a similar trend of thought is developed; namely, (a) God is in the synagogue: (b) when God does not find ten males in the synagogue, He is angry; (c) God prays and the synagogue is His house of prayer which is derived from Ps. LVI:7, "Even then will I bring to my holy mountain and make them joyful in my house of prayer"; (d) as a corallary of the preceding the prayer of man is only heard when prayed in the synagogue (Ber. 62 ff., and 7a ff.). The Rabbis magnify this thought in the following passage: "For though the distance between Heaven and Earth is infinitely great yet when a man comes to the synagogue and prays, God listens to him, for the petitioner is like a man who talks in the ear of his friend." (Jer. Ber. 13a; comp. also Pesikta d'Rab Kahana ed., Duber Lyck, 1868.)

A passage in Numbers Rabba (XI:2), represents God as skipping from synagogue to synagogue in order to bless Israel when it prays in the synagogue (so also is Canticles Rabba 2 on verse "Skipping upon the Mountains.")

So great are the prayers in the synagogue magnified that according to Exodus Rabba (XXI:4), the angels take the prayers of the Israelites in the synagogue and weave them into a crown for the head of God.

On the other hand, if we turn to Islamic theology we find that Mohammed as the Hebrews or in imitation of them taught similar conceptions, for it is recorded by tradition that to Abu Darr for example is given the following instructions, "that a prayer in a mosque is of more value than a thousand prayers recited elsewhere."

Amongst the Hebrews special merit was assigned to an early appearance in the synagogue, so also amongst the Mohammedans.

There are several other specific injunctions with regard to the conduct of prayers that are analogous to Hebrew and Islamic ritual. The Talmud prohibits loud and noisy prayers (Meg. 18a; Ber. 61a; cf. Slav. Enoch XXIV, 13) and Mohammed repeats the same in a more concise phraseology, "Cry not in your prayers" (Sura XVII: 11).

Intoxicated persons are prohibited to engage in acts of worship (Ber. 61a) also amongst the Mohammedans (Sura IV:46).

Prayers may be performed standing, walking, or even riding both according to the Jewish (Berachoth) as well as Mohammedan theology (Sura 2:23; 3:188; 10:13).

Devotion in both religions is permitted to be shortened in urgent cases without committing sin (Mish. Ber. IV:4, and Surah IV:1-2; Ber, 29b).

It is likewise a simple matter to trace the conception of Mohammedan food blessing to Talmudic sources. The Rabbis tell us (Vayyikra Rabba, Chap. IX), "Though all prayers were to be discontinued, prayers of thanksgiving will never be discontinued." For we give expression to our feelings of gratitude towards our benefactors by acknowledging the fact that whatever we enjoy we are enabled to enjoy through His kindness.

The various blessings formulated by the Mohammedan and Rabbinic sages serve a double purpose, first they facilitate the expression of our feelings; and secondly, they remind us of the presence of the Almighty and his goodness in providing us and all his creatures. We therefore find in accordance with the teachings as found in Berachoth a Koranic injunction (Sura 6:21), "Do not eat of that on which God's name has not been invoked for that is sin." This proves that a believing Mohammedan as a strick Jew will not eat meat which has not been ritualistically blessed at its slaughter (Comp. Bockenhoff, *Speisegesetze Mossaicher Art in Mittelalterlichen Kirchenrechts quellen.* Munster, 1907, p. 49).

The Geonic theory with regard to the creation of man in the image of God has been the foundation of all human endeavors to approximate and imitate the Supreme Being. The Rabbinic interpretation of the phrase "Ye shall be holy, for I the Lord am holy" (Lev. 19:2) is that it is incumbent upon all to imitate the King (God)" (Bacher Ag. Tan. 2:367). Philo expatiating upon this theory says that "Every man in regard to his intellect is connected with Divine Reason being an impression or a fragment or a ray of that Blessed Nature." (This is undoubtedly an unmistakeable instance of Stoicism. Comp. Philo's remark on creation of the world. Vol. 1:11.)

In the light of the stress laid upon this Hebraic conception it is not strange when we remember that Mohammed took a number of his theological teachings from Judaism inasmuch as we find analogous expression in Islamic sacred literature.

Under Sufusm it became an ethical ideal that one should strive to realize the qualities of God. The great theologian of Cordova Abu Muhammed Ali ibn Hazan (d. 1069) advanced the theory in his treatise ("Habit and Elevatim") Kitab-al-aklak walsivar fi mudawat al-nujus, which deserves a great deal of attention because the writer included in it in his "Confessions." A very characteristic and striking passage reads: Whoever strives for the blessedness of the other world and the wisdom of this, for justice in behavior and for the union of all good qualities, as well as for the merit of all virtues, he can follow the example of God and his prophet Mohammed and as far as he is able imitate their qualities and their manners. "May God help us with His grace, that we may be able to resemble the paragon" (Cairo, 1908, ed. Madmasant, p. 21). It might be well to here compare the Sifra which gives somewhat the same phraseology but perhaps more pregnant with meaning (Sifra Lev. XIX:17 and 18). On the other hand, if we turn to Ghazali we find in his introduction to the "Fattihat al ulum (Cairo, 1322) that he gives as a Hadith the almost Rabbinic phrase of the Talmudic saying: "takhallaku bi-akhalak-ill ahi," which in modern English means "to try to acquire the qualities of Allah." A similar

Jewish conception is found in the Talmud from which Mohammed directly or indirectly must have used as a source. (Comp. Sotah 14a and in Sifra Deut. 49, ed. Friedman, p. 85a, 16).

It was Rabbi Chamo ben Chaninah who said, "Walk in the attributes of God, i. e., make God's attributes rules for man's conduct. As he clothes the naked (Gen. 3:12) so do thou clothe the naked, as he nurses the sick (Gen. 18:1) so do thou nurse the sick; as he comforts the mourners (Gen. 25:2) so do thou comfort the mourners; as he buries the dead (Deut. 34:5) so do thou bury the dead. (Sotah 14a; comp. also Rabbi Eliezer of Metz Sefer Yarahim; also Maimonedes Sefer ha-Mitzroth, especially passage dealing with positive precepts, par. 8.)

As the way of heaven is that he is ever merciful against the wicked and accepts their repentance so be ye merciful against each other. As he bestows gifts on those who know him and those who know him not and deserve not his gifts so bestow ye gifts on each other (Tanad'ba Eliyahu ed. Friedman Vienna, 1902, p. 135), or better still, "If you have a chance to do an enemy a good turn and do not do it, you are guilty of revenge or hardship (Comp. Sifra Lev. XIX:17 and 18). An Islamic parallel almost word for word is found in the teachings of Ibu Arabi the Sirfi. For imitation of God demands the virtue of showing Kindness to one's enemy (Jour. Roy. As. Soc., 1906, p. 8, 9 and 10). But in spite of these five Mohammedan parallels which somehow or other must originally have come from Hebrew sources we have an example in Hebrew literature which is the boldest and most pictorial and one which I have been unable in spite of my many inquiries to find a parallel to. The boldest and most pictorial representation of these same imminent ideas of Divine activity is that of Yalkut on Exodus XXXI where the Almighty is represented as declaring "From the day of the world's creation even unto this hour I sit upon the Throne of my Glory spending one-third of the day in study of Torah, and another third in executing justice, and the last third in practicing benevolence and giving sustenance to all mundanic creatures." If this passage means anything at all it alludes to the Divine implanting of these virtues in the heart of mankind. God's day is eternity. His throne is the universe. The study of the Torah is the emblem of righteousness and truth. The Divine tendencies making for righteousness, truth and benevolence are ingrained in the world: they are the traces of God, which are part and parcel of the texture of the human soul. (See Numb. R. 94.)

The Torah was to the Jew the very expression of the mind and thought of God; and that is the evident explanation of the assertions that God looked upon the Torah when He created the world (Tanh 2b) or that he Himself studies the Torah every day. In this way God's self communing was made known to man, as a result of which "the Torah was to be made not merely in theory but also in practice a complete guide to life." (Hersford, Pharisaism, p. 95.)

The Torah arrived to control the minority by the majority or in direct quotation "not to impose upon the public what the majority could not abide by." What was always understood by the "hedge about the Torah" was the means taken to keep the divine revelation from harm so that the sacred enclosure so to speak might always be free and open for the human to contemplate and commune with the Divine. And so far as the Torah consisted of precepts, positive and negative, the "hedge" was of the nature of warning whereby a man might be saved from transgressing before it was too late (Comp. Hersford, Pharisism, p. 27).

The Halakah further emphasizes the fact that the laws of the Torah were all given in order that man might live by them and not die because of them. In the words of the Sifra the Jew is commanded that "he may live by means of the Halakah and not die because of them." The chief and central purpose of the Torah being to guide man in his labors for humanity. It would defeat its own purpose if it deprived itself of the laborers by insisting upon a too strict observance of its precepts (Comp. Sifra Ahare XIII, Weiss, p. 86b).

The same religious conception as expressed above is found in the Koran and in a somewhat more laconic form "Allah hath not laid on you any hardships in Religion" (Comp. Sura 22 V:77), or "Allah wisheth you ease and wisheth you not discomfort" (Sura 2 V:18), or better still the phrase, "We have come to make it easier and not more difficult" (Comp. Bukh. Isbn. Korans, 181). He cites it as a Koranic verse.

In view of the fact that we have here an almost verbative translation of the Hebrew command in Arabic and as is well known today to the average student of Arabic literature that "Many Jews well versed in the scriptures were won over by the inducements of Islam, and as a result had placed themselves at the service of Mohammed and his followers." We may well claim that Jewish tradition had long been well known in Medna (Muir, *Life of Mohammed*, 8, IXII) and that Mohammed had imitated the sayings of the Rabbis as well as the rest of the Jewish lore which was brought to his notice rather than evolved the famous sayings and the high concepts of theology himself. Well does Ihn Khaldun write, "The Arabs were a people without literature or science, rude and unlearned, when the longing after knowledge which is natural to humanity arose in their hearts. They betook themselves to the people of the previous Book and sought information from them. Then were the adherents of the Tourat (O. T.) consisting of the Jews—their teachers" (Comp. Sprenjer, *The Life and Doctrine of Mohamet from sources hitherto for most part unused,* Vol. P. CIX).

The Arabic authority Mim also remarks that "most of the Arabic patriarchial geneologies are an undisguised plagiarism from the Old Testament and the legends of Rabbinical writings. Everything is derived from the Rabbins of Yemen and Syria (Comp. Muir's *Mohamet,* Vol. L, pp. lxx, cvii and cxciii).

HELL

The conception of hell as a place where certain types of the unrighteous shall go regardless of other merits, is common to both Mohammedan and Hebrew writers. Both agree that the pious follower shall not be forever condemned. The Mohammedan being taught that no believing Muslem shall remain eternally in hell (Alfred M. Kramer, *Geschichte der Herrschenden Ideen des Islam,* p. 25, Leipsig, 1868). And the Talmud is of the same opinion (Comp. B. M., 58b; Matt. V:22).

And it is written in Proverbs XI, 4, "Riches profit not in the day of wrath, but alms (righteousness) delivereth from death." Treasures of wickedness profit nothing but alms delivereth from death" (Proverbs X:2). One deliverance is from an unnatural death and the other is from the condemnation of Hell (B. B. 1-a). According to the Talmud all those that descend to Hell rise again after the year of Judgment except those who commit adultery, who cause their fellows to blush in public and those who slander (Compare R. H. 16b; Tosefta; Sanhedrin XIII 3-5; Matt. V:22). Rabbi, Chanena said, "All who descend into Hell rise again except those who commit adultery, who cause their fellows to blush in public and who call their neighbors by nicknames. Likewise Abu Hureira, the

Mohammedan, reports: "Some one was telling the phophets about a woman who was famous for her praying, fasting, and almsgiving, but nevertheless slandered her neighbors greatly with her tongue." "She belongs in Hell," declared the prophet (See Goldizer *Islam*, p. 20).

And yet giving charity and relieving the poor was positive step to advance one to a place in heaven. Turnus Rufus asked Rabbi Akiba, "If your God is a friend of the poor why does he not feed them?" He replied that we by maintaining them may escape the condemnation of Hell. Of like import is the opinion of Abn Talib who says that when a poor man takes charity from the wealthy he is thereby building him a house in Paradise (Kut al-Kulub 2:201). Another story is told (K. K. 1:95) of a man who had provided 2,000 chickens for a journey to Mecca. A saint told him that one acquired more merit by disbursing them in charity than by using them for a pilgrimage.

In the Talmud the Prince of Hell demands a supply for his domain and a similar request is made in the Koran (Othroth by Rabbi Akiba VIII:1 (Comp. also, Surah, 1:29). And in another instance the mention of seven hills as the appointed abode of the damned, and each hell with seven gates is found in representative documents (Erubin, XIX:1; Midrash on Ps. XI and Surah XV:44).

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